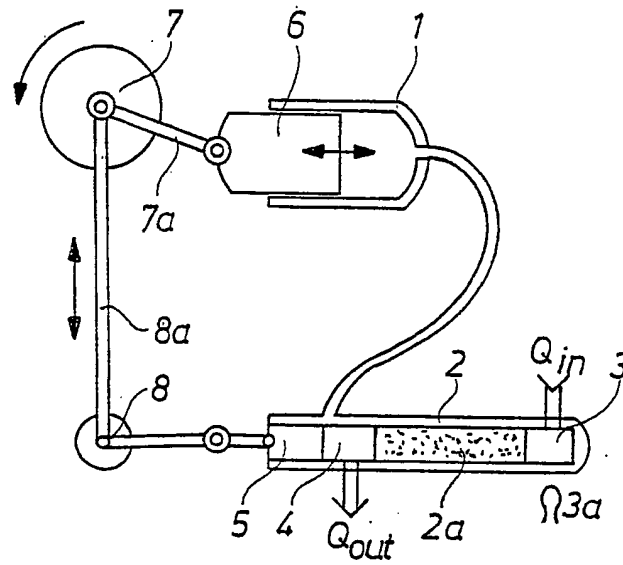
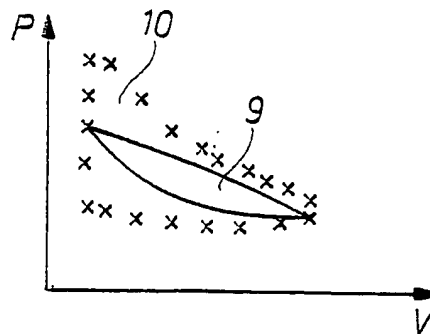


**Fig. 1**



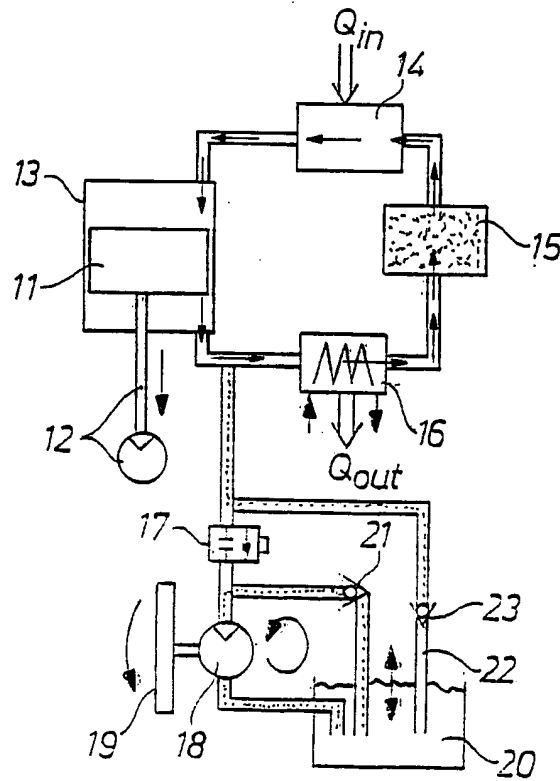
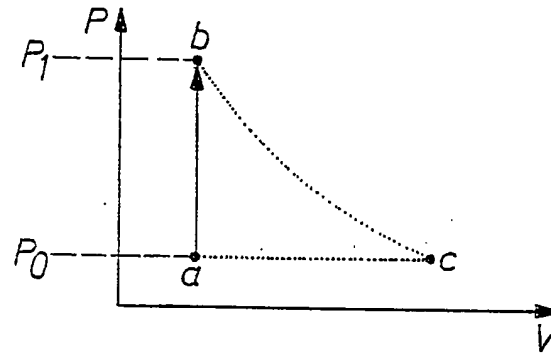
**Fig. 2**

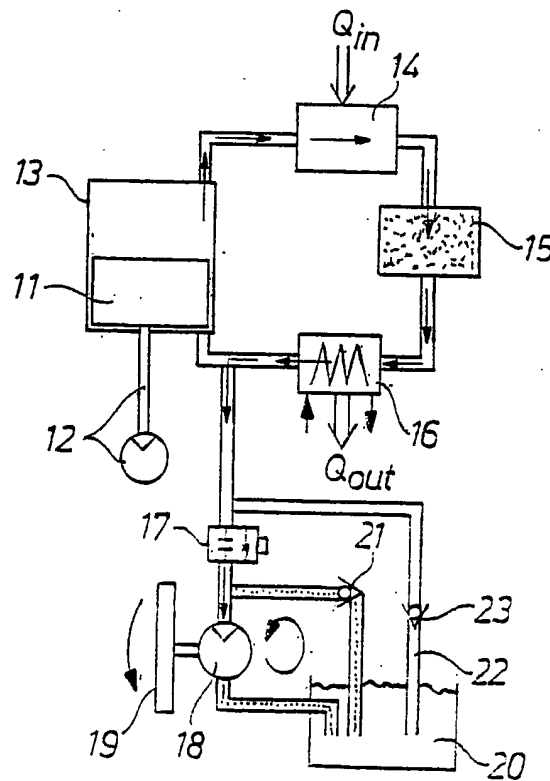
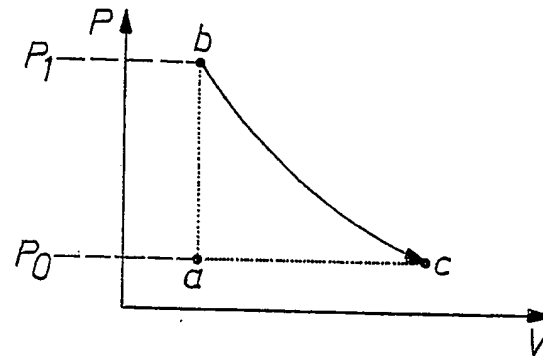


The diagram illustrates a thermodynamic cycle with the following components and flow paths:

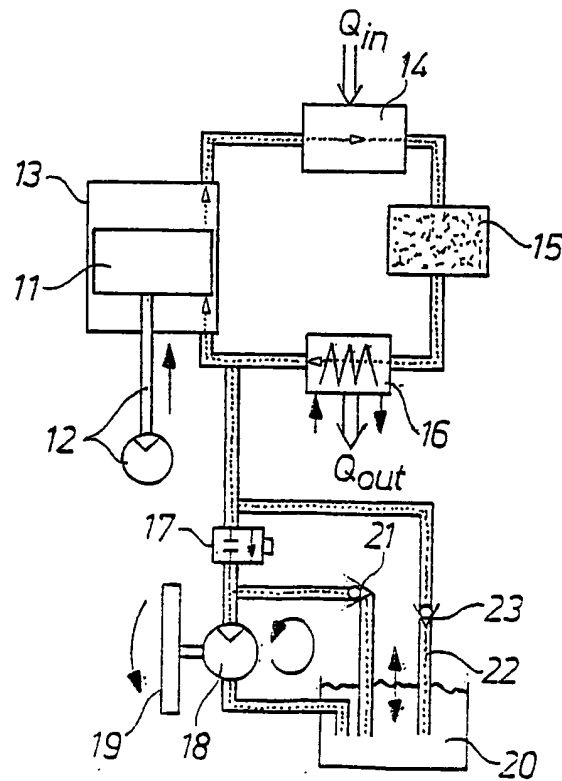
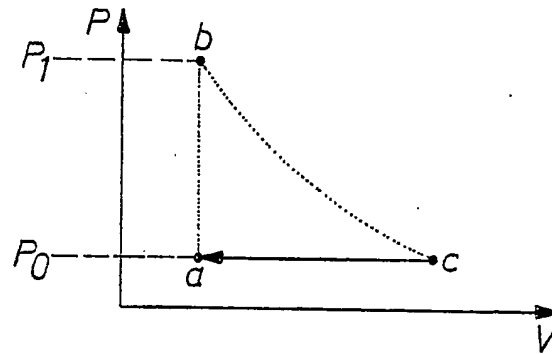
- Heat Source (14):** A rectangular box at the top where heat  $Q_{in}$  is added to the working fluid.
- Heat Exchanger (15):** A rectangular box with a stippled pattern on the right side, through which the fluid flows.
- Condenser (16):** A rectangular box with a zigzag line representing a cooling coil. Heat  $Q_{out}$  is rejected from the fluid here.
- Pump (17):** A small rectangular box with a downward arrow, representing a device that increases the pressure of the fluid.
- Engine (18):** A circular component with a piston and crankshaft, where the fluid expands to produce work.
- Working Fluid (11):** A rectangular box within a larger container (13) that holds the fluid being cycled.
- Valves (12, 21, 23):**
  - Valve 12 is located at the bottom of the fluid reservoir 11.
  - Valve 21 is a check valve on the line between the condenser 16 and the pump 17.
  - Valve 23 is a check valve on the line between the pump 17 and the heat source 14.
- Other Labels:**
  - 13: Outer container for the fluid reservoir.
  - 19: A vertical plate or barrier near the engine.
  - 20: A reservoir or tank at the bottom of the cycle.
  - 22: A vertical tube or pipe connecting the bottom of the cycle to the condenser.

The cycle proceeds clockwise: from the heat source (14) through the heat exchanger (15) and condenser (16), then through the pump (17) and engine (18), and finally back to the heat source via the fluid reservoir (11).

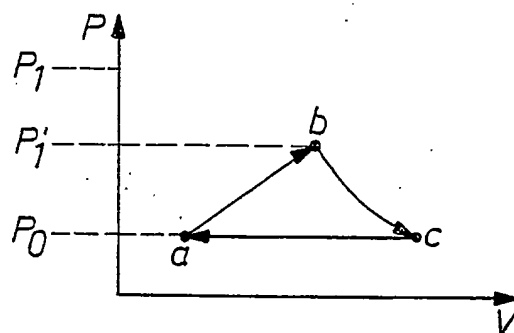
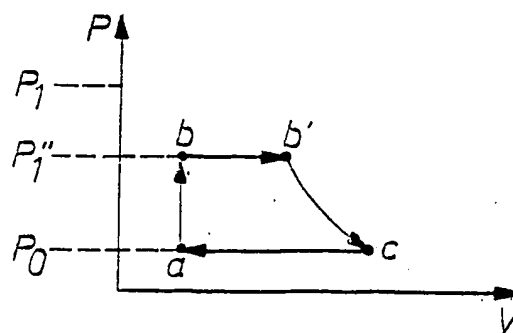
**Fig. 4a**

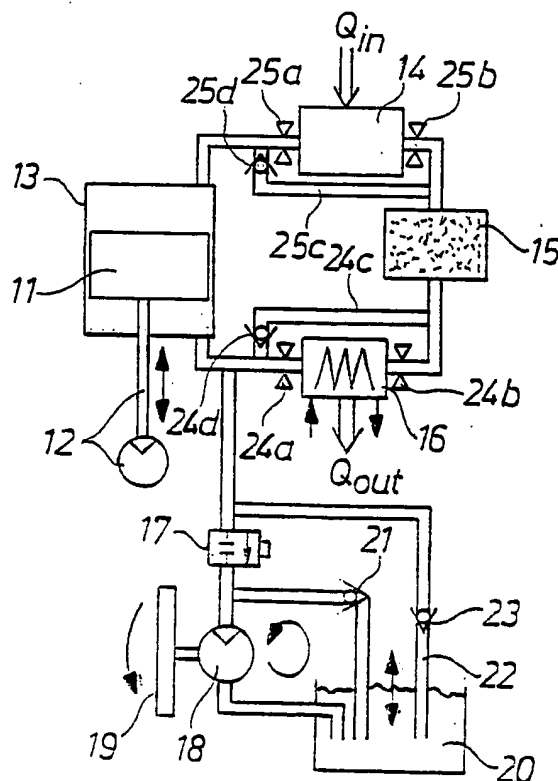
**Fig. 4b**

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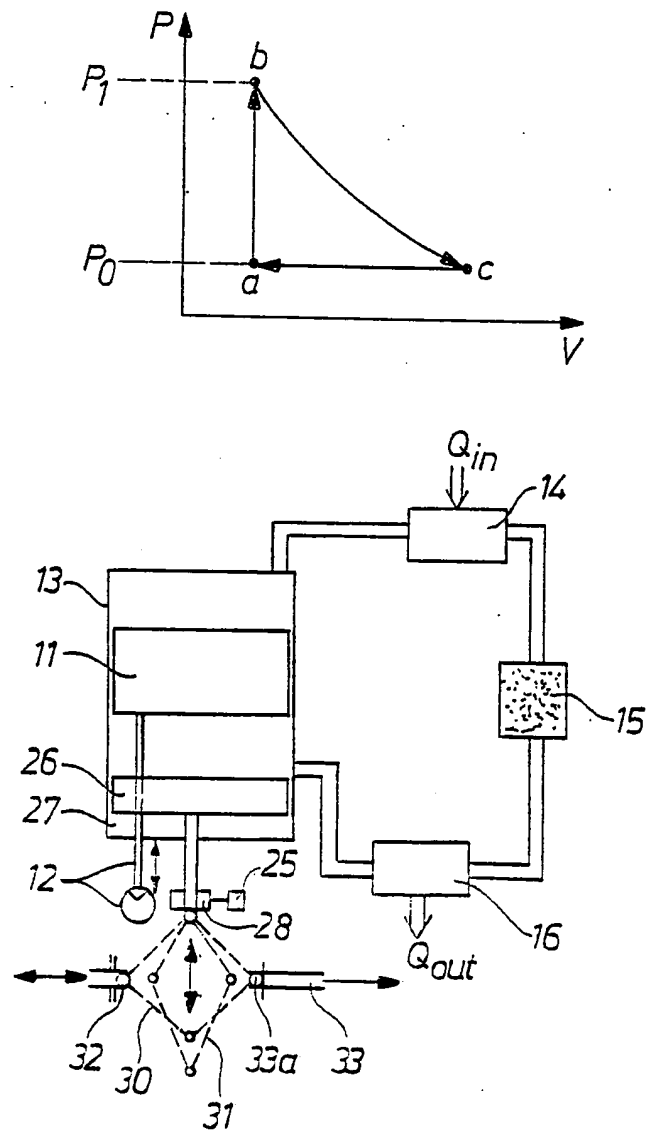
**Fig. 4c**

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**Fig. 5****Fig. 6**

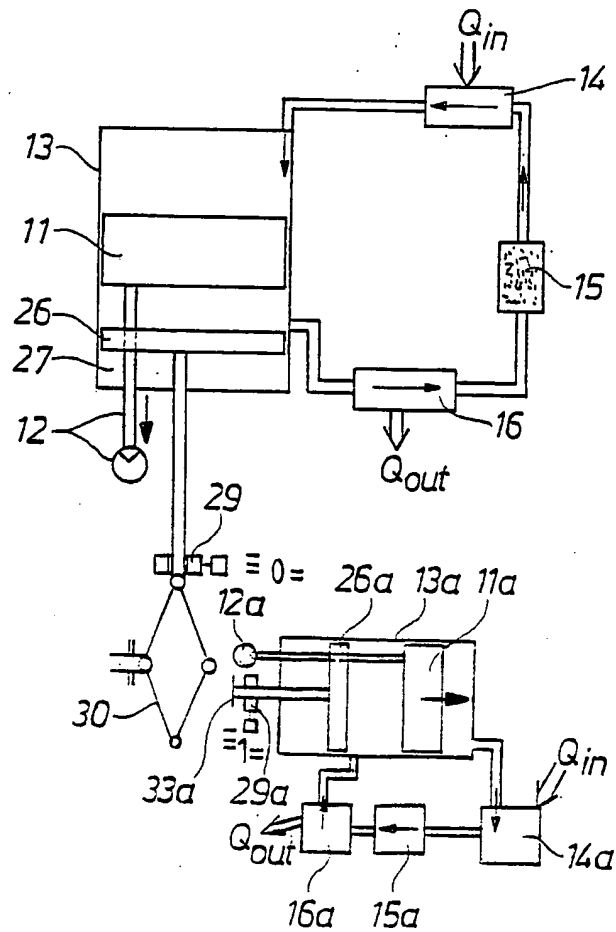
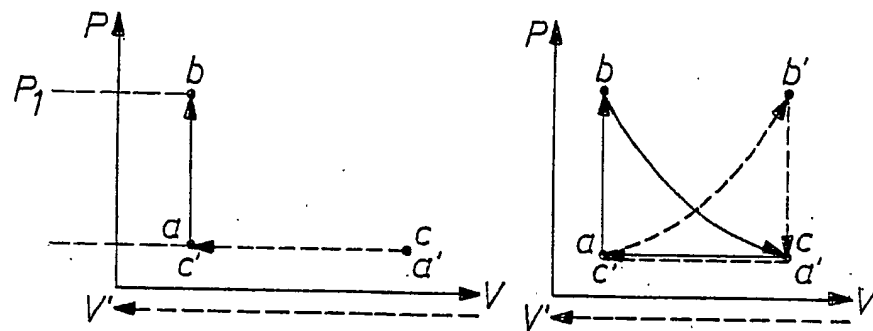


**Fig. 8**

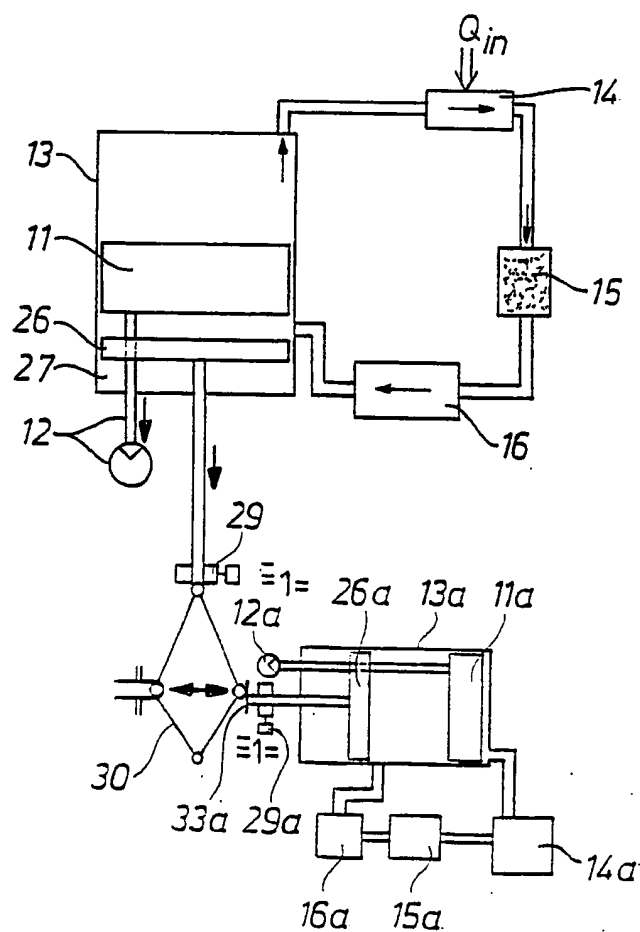
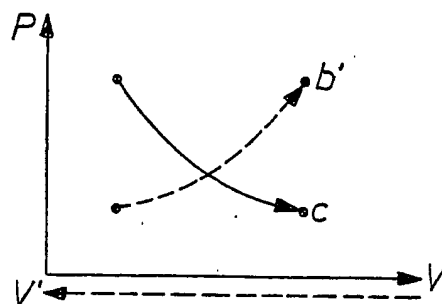




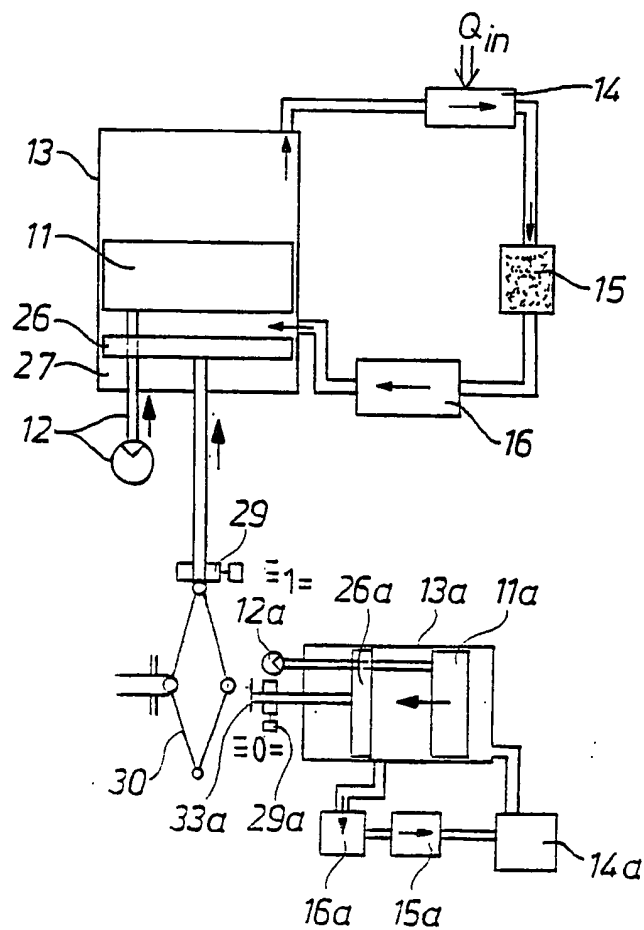
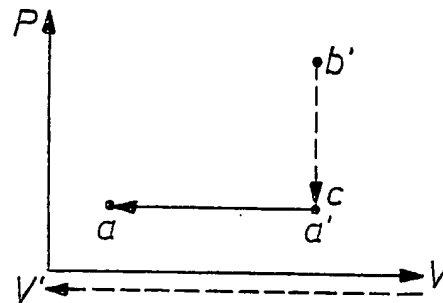
**Fig. 9a**



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**Fig. 9b**

- 11/12 -

**Fig. 9c**

**Fig. 10**